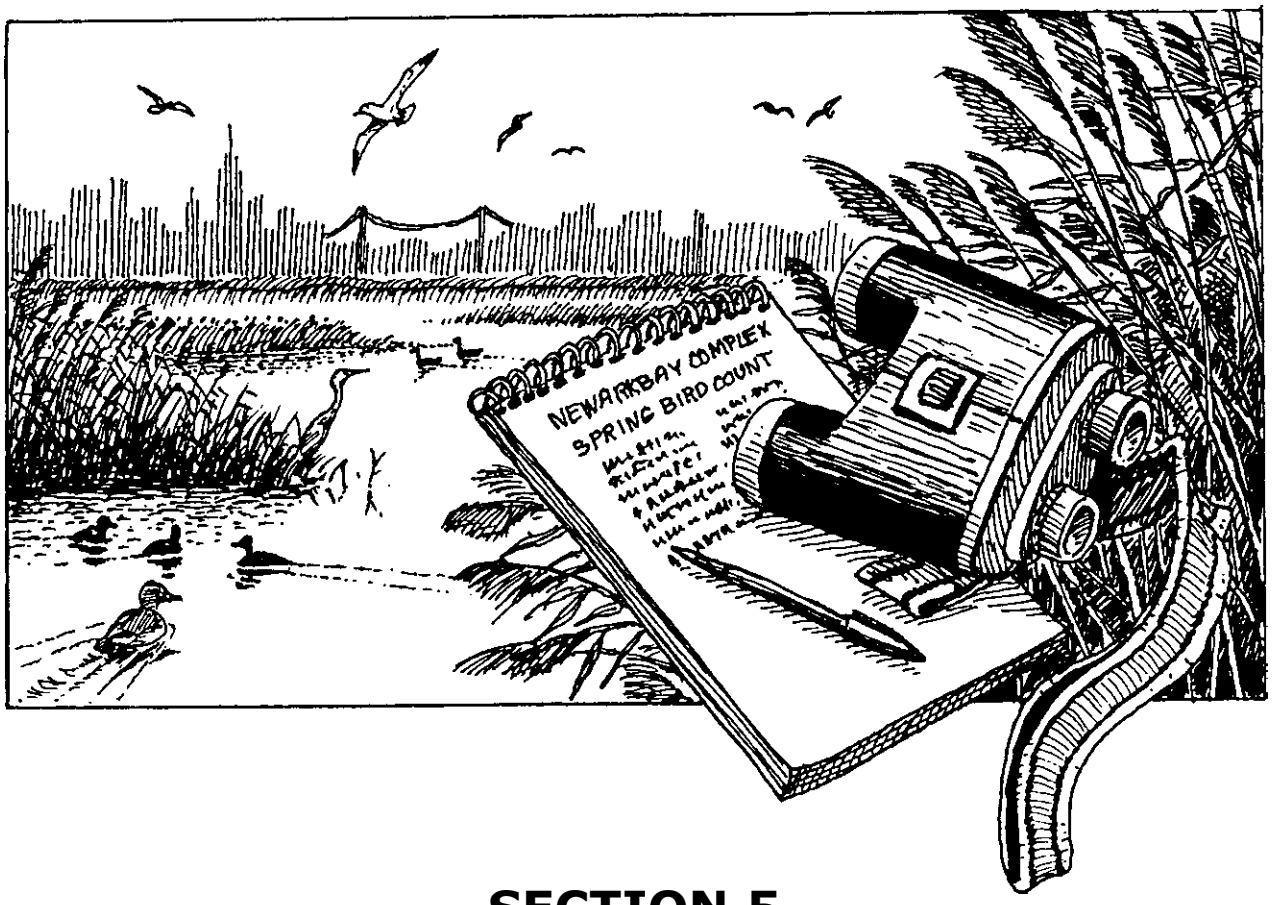
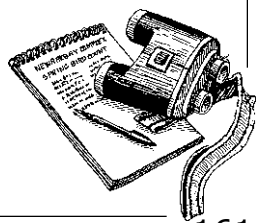
A CLOSER LOOK



SECTION 5
COMMUNITY OUTREACH

There are numerous ways in which citizens can get involved in learning more about angling opportunities in their communities and the quality of their community's water resources. The next few pages explain two ways that students can be involved by taking care of the aquatic resources by practicing "catch and release" fishing, and by learning how to monitor the quality of local waterways through a watershed program.



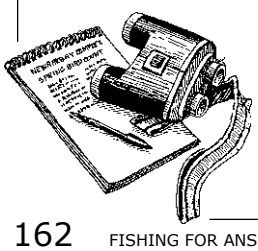
CATCH AND RELEASE FISHING

BACKGROUND INFORMATION

Catch and release fishing has become a popular alternative for anglers who enjoy the thrill of the catch but do not want to eat the fish. If you decide to release your catch, use special equipment such as artificial lures or barbless hooks, or crimp the barb on a standard hook. These devices make it easier to remove the hooks from the fish. Follow these tips to safely return the fish to the water:

- Time is essential, so quickly land and release the fish.
- Keep the fish in or over the water as much as possible.
- Gentle handling of the fish is essential. Hands should be kept wet at all times while handling the fish. Do not put fingers in the gills or eyes.
- Remove hooks quickly using long nosed pliers. If the fish is deeply hooked, cut the line and leave the hook.

Place the unhooked fish gently into calm water. If the fish does not immediately swim away, hold it upright in the water until it regains its strength. It may be helpful to grasp the fish by the tail and move it slowly forward and backward to "force" oxygenated water to pass over its gills to speed revival.



Organizations that provide fishing information include:

US Fish & Wildlife Service
www.fws.gov

NJ Division of Fish & Wildlife
www.state.nj.us/dep/fgw/fishing.htm

American Littoral Society
www.alsnyc.org

NJ Chapter Hudson River Fisherman's Association
www.hrfanj.org

Jersey Coast Anglers Asscoiation
www.jcaa.org

WATERSHED / WATER QUALITY MONITORING PROGRAMS

BACKGROUND INFORMATION

Volunteer monitoring has become an integral part of the effort to assess the health of our nation's waters. Data collected in these programs must adhere to strict quality control and volunteer monitors are trained in specific methods. Students who participate in water quality monitoring as part of school projects:

- Learn about scientific data collection techniques and equipment,
- Document the effect of nonpoint and point source pollutants on water quality,
- Contribute to the broad base of scientific information on the function of an ecosystem and the effects of estuarine pollution,
- Become watchdogs for their waterway, and
- Indicate to local officials and other community members that they care about the quality of their waterway.

METHODS

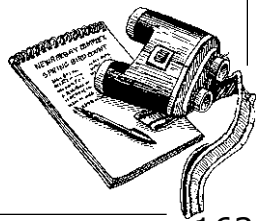
According to the U.S. Environmental Protection Agency (EPA), the most important parameters to assess in an estuarine ecosystem are dissolved oxygen, nutrients and phytoplankton, submerged aquatic vegetation and bacteria. (*Volunteer Estuary Monitoring: A Methods Manual*. 1993.)

Dissolved Oxygen (DO)

Dissolved oxygen is one of the most important indicators of the quality of water for aquatic life. Both plants and animals require oxygen for respiration and the amount of DO in the water controls the presence or absence of estuarine species. Oxygen levels vary with the amount of chemicals present in the water, biological processes, seasonal and climatic variations and salinity.

Nutrients

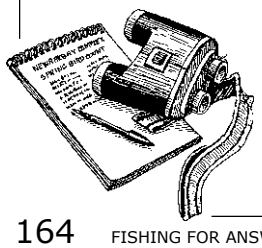
Nutrient levels are closely related to the level of DO in the water. Nitrogen and phosphorus are two of the many nutrients that are needed for the survival of aquatic organisms. Nitrogen is essential for plant growth, while phosphorus is critical for metabolic processes that involve the transfer of energy. Excessive amounts of either represent a major pollution problem. Nonpoint sources include



agricultural runoff and fertilizers, while point sources include sewage and industrial effluents.

Submerged Aquatic Vegetation (SAV)
Submerged aquatic plants are essential to estuarine systems. These beds provide shelter for many species as well as a nursery ground for young animals. They provide food for animals, add DO to the water, assimilate nitrogen and phosphorus, and help buffer the shoreline against erosion. Monitoring the status of these plant populations over time will help determine the health of the system.

Bacteria
The most easily monitored bacteria in an aquatic system are fecal coliform. This bacteria lives in the intestines of all warm-blooded animals, including humans. Its presence in water may indicate possible sewage contamination and the presence of pathogens. These pathogenic bacteria pose a threat to human health. Sources of bacteria into waterways include animal waste, inadequate wastewater treatment systems, leaky septic systems, sanitary landfills and storm water runoff.



VOLUNTEER MONITORING PROGRAMS

- U.S. Environmental Protection Agency (EPA), Office of Water
  401 M Street, SW
  Washington, DC 20460
  www.epa.gov/ow/citizen.html
  www.epa.gov/owow/volunteer.html

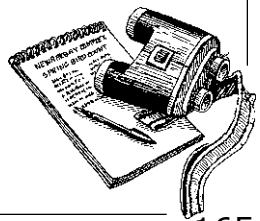
The U.S. Environmental Protection Agency (EPA) supports the volunteer monitoring movement in a number of ways. It sponsors national and regional conferences to encourage information exchange between volunteer groups, government agencies, businesses, and educators; publishes sampling methods manuals for volunteers; produces a nationwide directory of volunteer programs; and can provide some technical assistance on quality control and laboratory methods.

- New Jersey Department of Environmental Protection (NJDEP),
  Division of Watershed Management
  PO Box 418
  Trenton, NJ 08625-0418
  Phone: (609) 292-2113
  www.state.nj.us/dep/watershedmgt/volunteer_monitoring.htm

NJDEP's Volunteer Monitoring Program began as a way to help interested citizens gain the skills and experience needed to monitor their local waterways. The goal is to get New Jersey citizens out in the field enjoying, learning and collecting data about the characteristics of their watershed.

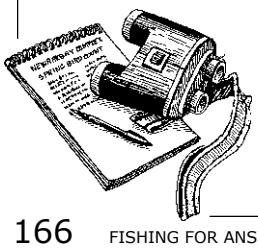
The Office of Outreach and Education in the Division of Watershed Management is responsible for the coordination of the Volunteer Monitoring Program and the Watershed Watch Network.

Watershed Watch Network is a program acting as an umbrella for all of the volunteer monitoring programs within New Jersey. The Watershed Watch Network has two advisory committees; Data Users and Water Resource Managers make up the Internal Advisory Committee and Volunteer Monitoring Program Managers throughout the State make up the Watershed Watch Network Council. A four-tiered approach has been developed to allow for volunteers to pick their level of involvement based on what the purpose of their monitoring program is, what the intended data use is and who the intended data users are. The goal of this new program is to provide acceptable protocols and QA/QC requirements for volunteers if they chose to submit their data to the NJDEP, to assist volunteers in designing and building upon their existing programs and assist data users in gathering sound data for their uses.



If you would like more information about this program please contact Danielle Donkersloot, Volunteer Monitoring Coordinator at 609-633-9241 or via email at Danielle.Donkersloot@dep.state.nj.us.

- Watershed Partnership for New Jersey Identify your local watershed association by visiting the Watershed Education and Resource Directory on the website for The Watershed Partnership for New Jersey www.wpnj.org.



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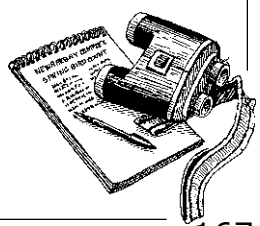

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